

What is claimed is:

1. A computer system comprising:

a processor;

a memory unit configured to store data used by the

processor;

a memory control unit configured to manage data flowing

into and out of the memory unit;

a circuit board having multiple layers and comprising:

a first signal line, formed on a first layer of the circuit board and connected between a first connection on the memory unit and the memory control unit; and

a second signal line also formed on the first layer of the circuit board and connected to the first pin on the memory unit,

wherein said layer defines a non-grounded gap between said first and second lines

2. The system of claim 1, wherein at least a portion of

the second signal line is routed roughly parallel to the first signal line.

Sub 1  
3. The system of claim 1, further comprising third and fourth signal lines, on a second layer of the circuit board, different than the first layer.

Sub 15  
4. The system of claim 2, wherein the first signal line and the portion of the second signal line that is routed roughly parallel to the first signal line have substantially equal widths.

5. The system of claim 4, wherein the first signal line and the portion of the second signal line that is routed roughly parallel to the first signal line are separated by a distance approximately equal to said widths.

6. The system of claim 5, wherein the widths of the lines and the distance separating the lines each approximately 5 mils.

Sub 1  
7. The system of claim 1, wherein the memory unit

2 comprises a Rambus device.

Sub  
A6

1 8. A method for use in routing signals between a memory  
2 unit and a memory control unit, the method comprising:  
3 delivering a first signal over a first signal line formed  
4 on a selected layer of a circuit board and connected between the  
5 memory control unit and on the memory unit;  
6 delivering a second signal over a second signal line formed  
7 on the selected layer of the circuit board and connected to the  
8 first pin of the memory unit; and separating said first and  
9 second signal lines without a ground connection therebetween

6611.21-ETH-9760

1 9. The method of claim 8, wherein said delivering the  
2 second signal includes delivering the second signal over a  
3 portion of the second signal line that is routed roughly  
4 parallel to a portion of the first signal line.

Sub  
A7

10. The method of claim 8, further comprising delivering  
2 another signal to said memory control unit on another layer of

4 lines that are not separated by any conductive traces.

1        11. The method of claim 8, wherein delivering the first  
2        signal and the second signal include delivering the signals over  
3        portions of the first and second signal lines that have  
4        substantially equal widths.

1        12. The method of claim 11, wherein delivering the first  
2        signal and the second signal include delivering the signals over  
3        portions of the first and second signal lines that are separated  
4        by a distance approximately equal to their widths.

1           13. The method of claim 12, wherein delivering the first  
2     signal and the second signal include delivering the signals over  
3     portions of the first and second signal lines that are  
4     approximately 5 mils wide and that are separated by a distance  
5     of approximately 5 mils.

Sub  
A7

1 14. A method for use in manufacturing a computer system,  
2 the method comprising:  
3 forming a multiple-layer circuit board with first and  
4 second signal lines on a selected layer of the board;  
5 connecting a memory unit to the board such that a first  
6 connection on the memory unit connects to the first and second  
7 signal lines; and  
8 affixing a memory control unit to the board such that the  
9 memory control unit connects to at least the first signal line.

1 15. The method of claim 14, further comprising forming at  
2 least a portion of the second signal line to be roughly parallel  
3 to the first signal line.

Sub  
A8

1 16. The method of claim 14, further comprising forming the  
2 first and second conductive lines such that no conductive trace  
3 lies between the first signal line and the portion of the second  
4 signal line that is routed roughly parallel to the first signal  
5 line.

Sub  
As

17. The method of claim 16, further comprising forming the first signal line and the portion of the second signal line that is routed roughly parallel to the first signal line to have substantially equal widths.

18. The method of claim 17, further comprising forming the first signal line and the portion of the second signal line that is routed roughly parallel to the first signal line to be separated by a distance approximately equal to their widths.

19. The method of claim 18, further comprising forming the signal lines such that the widths of the lines and the distance separating the lines are all equal to approximately 5 mils.

20. A circuit board for use in a computer system comprising:

- a memory unit;
- a memory control unit; and
- a data bus connecting the memory control unit to the memory

unit and comprising:

a first signal line formed on a selected layer of the circuit board and connected to the memory control unit and to a first connection on the memory unit; and

a second signal line formed on the selected layer of the circuit board and also connected to the first connection on the memory control unit.

Add  
A9

Add  
D1